

International Project Management

“Pallet”: Commodity classification

Javier Pérez Moreno

Dortmund., 10 December, 2009

Agenda

- I. Introduction.**
- II. Standards, catalogs and classification systems.**
- III. Comparisons.**
- IV. Proposal for an extended and harmonised description.**

I. Introduction

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Introduction

Definitions:

-“commodity” A type of plant, plant product, or other article being moved for trade or other purpose.¹

-“Pallet”: A rigid horizontal platform of minimum height compatible with handling by pallet trucks, and/or fork-lift trucks and other appropriate handling equipment, used as a base for assembling, stacking, storing, handling or transporting goods and loads.²

¹ FAO, Food and Agriculture Organization of the United Nations 1990; revised ICPM

² ISO 445, Pallets for materials handling – Vocabulary, (July 1996)

Introduction

The lack of a single international standard for pallets causes substantial continuing expense in international trade. A single standard is difficult because of the wide variety of needs a standard pallet would have to satisfy: passing doorways, fitting in standard containers, and bringing low labours when a tool is used to determine whether a manufacturing or business process is in a state of statistical control or not.

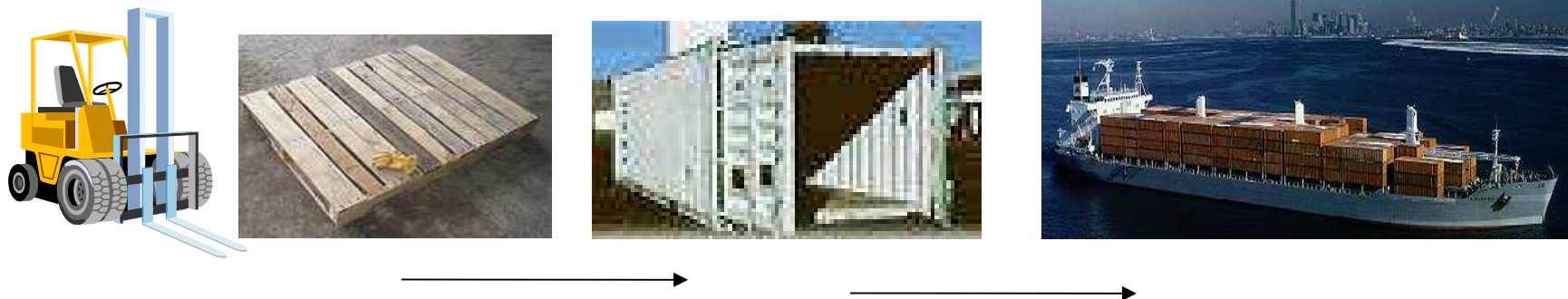


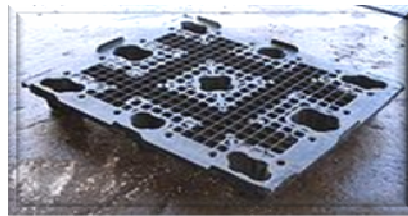
Fig.1: General representation of transporting a pallet

Introduction

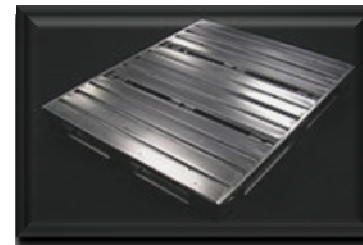
The great variety of pallet sizes and constructions restrict their movement through manufacturing and distributing channels. This variety was the result of each user treating pallet design as a private problem.



Wood pallet



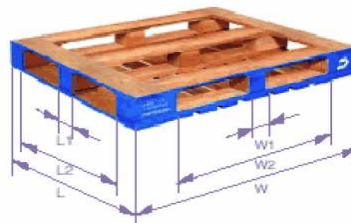
Plastic pallet



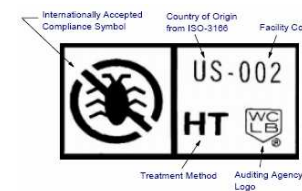
Steel pallet



Presswood pallet



DIN, ISO, ASTM,
ANSI, etc.



up to **66%** space saved!

Fig.2: Different pallets and attributes for pallets

Introduction

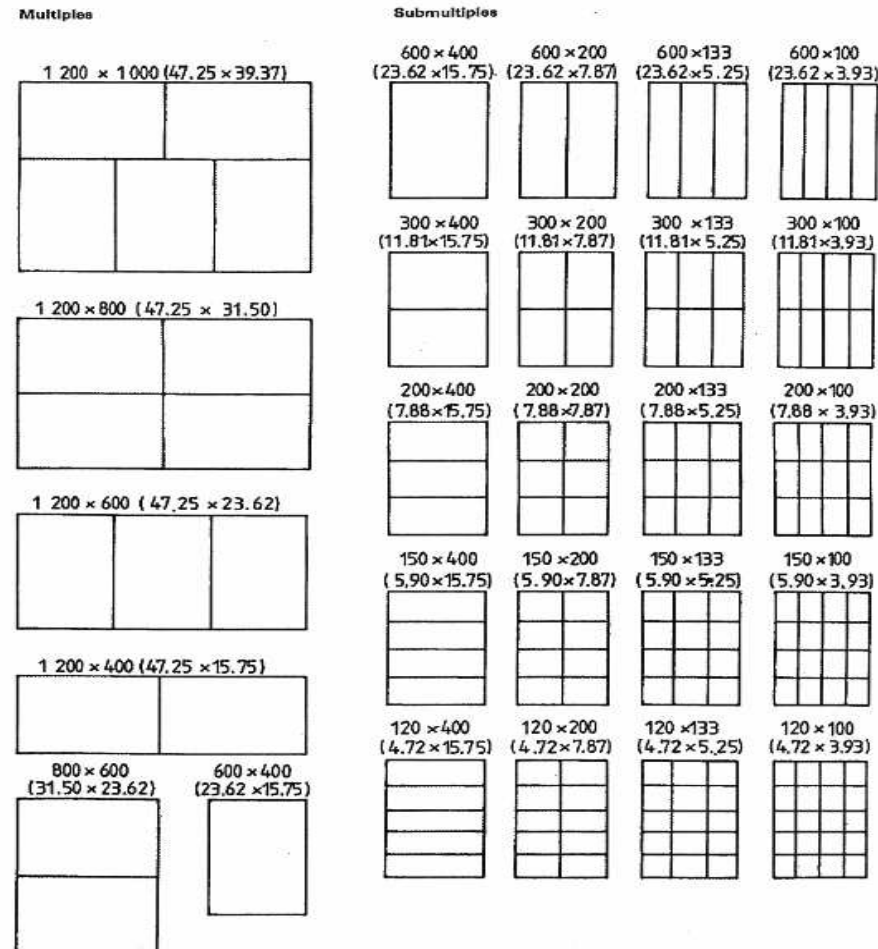


Fig.3: Dimensions in mm(inch) of different sizes of pallets.

Introduction

Standardization of pallet sizes will in turn allow standardization of trucks, containers and warehouse design for economy of space.

This will result in economy of space and facilitate automation. Other benefits identified are:

- Reduction of damaged goods losses through minimal manual handling
- Reduction in number of transportation trips
- Minimisation of the wastage of pallets
- Elimination of the need for sorting of pallets
- Reduction of unloading time for suppliers
- Reduction in warehouse storage cost

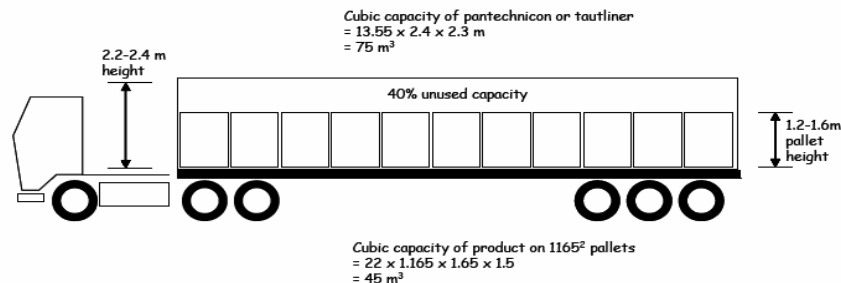


Fig.4: Loading a lorry with standards pallets

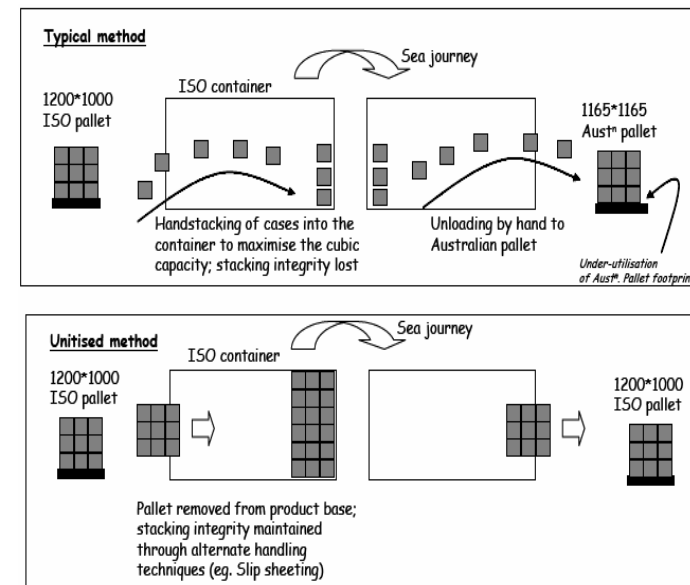


Fig.5: Two ways of loading a lorry

II. Standards, catalogs and classification systems.

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Standards

A pallet standard is necessary because a standard allows a direct comparison between pallets, not only in performance specifications, but also in defining the terminology common in the industry.

A pallet standard helps with conflicts between the end user and supplier or equipment manufacturer.

Furthermore, equipment manufacturers can improve their design capabilities of material handling equipment when they know the defined specifications of the pallet that will be used.

Standards

-The most recognized agencies that regulate pallet sizes to streamline their use across the globe are ISO and ANSI.

**The International Organization for Standardization (ISO).
American National Standards Institute (ANSI).**

-If a non-standard pallet is needed, one that requires dimensions that differ from standards set by these organizations, it is called a custom pallet. Custom pallets are built to the size and material specifications of the person or business that will use them.

Other agencies:

- Deutsches Institut für Normung (DIN).**
- National Wood Pallet and Container Association(NWPCA).**
- European Pallet Association (EPAL).**
- Australian Standard Pallets.**
- Comité Européen de Normalisation (CEN).**

Standards

AENOR	Spain	Asociación Española de Normalización y C
AFNOR	France	Association Francaise de Normalisation
ANSI	USA	American National Standards Institute
BPS	Philippines	Philippines Standards Association
BSI	UK	British Standards Association
CNI	Czech	Czech Standards Association
DIN	Germany	Deutsches Institut für Normung
DS	Denmark	Danish Standards
DSM	Malaysia	Dept of Standards Malaysia
GOST R	Russia	Russian State Standards
IPQ	Portugal	Instituto Português da Qualidade
JISC	Japan	Japanese Industrial Standards
KATS	Korea	Korean Agency for Technology and Standards
NEN	Netherlands	Netherlands Standards Institute NNI
NBN	Belgium	Belgium Standards Institute
ON	Austria	Austrian Standards
SA	Australia	Standards Australia
SABS	South Africa	South African Bureau of Standards
SAC	China	Standardization Administration of China
SIS	Sweden	Swedish Standards Institute
SCC	Canada	Standards Council of Canada
SNV	Switzerland	Swiss Association for Standardization
UNI	Italy	Italian National Standards

Tab.1: National Standards Bodies participating in CEN and ISO pallet standards³

3 PalletLink Datasheet 95d www.palletlink.co.uk

Standards and catalogs

General attributes for classification in standards and catalogs.

1-Classes:

1-1 Stringer pallet

1-2 Block pallet

1-3 Perimeter base pallet

1-4 According to the shape (flat pallet, superstructure, etc)

2-Materials:

2-1 SW (softwood)

2-2 HW (hardwood)

2-3 Paper pallets

2-4 Plastic pallets

2-5 Steel pallets

2-6 Aluminium pallets

3-Mechanical fasteners (Nail, screw, rivet, etc)

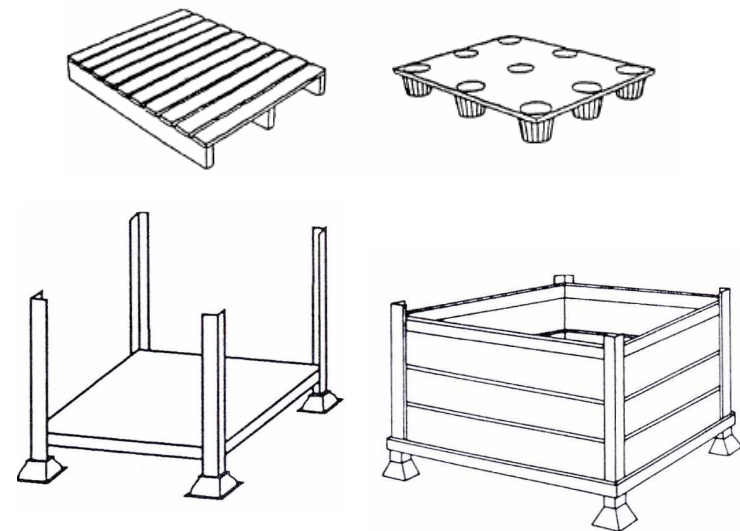
4-Pallets components and attributes

5-Usage (reusable, one-trip pallet, etc)

6-Phytosanitary

7-Colours (red=toxic, blue=comestible products, etc)

8-Etc...



4 ISO 445, Pallets for materials handling – Vocabulary, (July 1996)

Fig.6: General graphical representation of different pallets 4

Comparisons

General dimensions for wood pallets

1200 * 1000 1219 * 1016	1200 * 800	1100 * 1100	1165 * 1165
USA Canada Mexico Chile United Kingdom Netherlands Finland South Africa Singapore Hong Kong Malaysia Indonesia Thailand Phillipines New Zealand India * Middle East *	Germany France Italy Spain Sweden Switzerland Austria	Japan Korea	Australia
* emerging			

Tab.2: Geographical distribution of wood standards pallets according top dimensions

III. Comparisons

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Comparissons.

List of all terms concerning to pallets in eCI@ass

20	Packing material
20-26	Pallet (packing material)
20-26-01	Pallet (wood)
20-26-02	Pallet (plastic, packing material)
20-26-03	Pallet (metal, packing material)
20-26-04	Pallet (paper, packing material)
20-26-05	Pallet (corrugated paperboard, packing material)
20-26-90	Pallet (packing material, other)
20-26-99	Pallet (repair)

Classification	
18-01-01-03 - Pallet car for sinter plant	20-24-01-01 - Tank (plastic, Box pallet)
20-24-01-02 - Tank (coex, box pallet)	20-24-03-02 - Rectangular container (pallet container, corrugated cardboard)
20-26-00-00 - Pallet (packing material)	20-26-01-00 - Pallet (wood)
20-26-01-01 - CP-Pallet (wood)	20-26-01-02 - Disposable pallet (wood)
20-26-01-03 - Euro pallet (wood)	20-26-01-04 - Half pallet
20-26-01-05 - Quarter pallet	20-26-01-06 - Pallet (plywood)
20-26-01-07 - Round pallet (plywood)	20-26-01-08 - Pallet (particleboard)
20-26-01-09 - Box pallet (wood)	20-26-01-90 - Pallet (wood, unclassified)
20-26-01-91 - Pallet (wood, parts)	20-26-02-00 - Pallet (plastic, packing material)
20-26-02-01 - Pallet (plastic)	20-26-02-03 - Pallet (EPS)
20-26-02-04 - Pallet (plastic recycle)	20-26-02-05 - Half pallet (plastic)
20-26-02-06 - Quarter pallet (plastic)	20-26-02-90 - Pallet (plastic, packing material, unclassified)
20-26-02-91 - Pallet (plastic, parts)	20-26-03-00 - Pallet (metal, packing material)
20-26-03-01 - Pallet (steel)	20-26-03-02 - Pallet (Skeleton container)
20-26-03-03 - Pallet (aluminum)	20-26-03-90 - Pallet (metal, packing material, unclassified)
20-26-04-00 - Pallet (paper, packing material)	20-26-04-01 - Pallet (paper)
20-26-05-00 - Pallet (corrugated paperboard, packing material)	20-26-05-01 - Pallet (corrugated paperboard)
20-26-05-90 - Pallet (corrugated paperboard, packing material, unclassified)	20-26-90-00 - Pallet (packing material, other)
20-26-90-90 - Pallet (packing material, other, unclassified)	20-26-99-00 - Pallet (repair)
20-26-99-90 - Pallet (repair, unclassified)	21-02-07-03 - Pallet tension jack
21-07-91-01 - Pallet trolley (parts)	21-10-04-27 - Pallet rack
23-12-03-04 - Pallet nail	36-12-03-01 - Pallet truck
36-52-12-00 - Pallet forming, dismantling a. securing machine	36-52-12-01 - Palletizing machine
36-52-12-02 - Pallet dismantling machine (depalletizer)	36-52-12-03 - Pallet securing machine
36-52-12-04 - Ancillary equipment for pallets	36-52-12-90 - Pallet forming, dismantling a. securing machine (unclassified)
40-06-30-04 - Gas bottle pallet	41-04-01-04 - Pallet display (marketing)
41-04-01-05 - Display pallet (marketing)	41-04-01-10 - Pallet binding (marketing)
41-04-02-11 - Pallet center, plastic (marketing)	41-04-03-05 - Pallet center, metal (marketing)
20-24-01-02 - Box pallet (with coex tank)	20-24-01-01 - Box pallet (with plastic tank)
20-26-99-90 - Corrective maintenance (pallet)	24-25-92-14 - Mixing pallet for colours (artist's requirements)
24-25-92-14 - Moisturiser pallet (artist's requirements)	20-24-03-02 - Pallet container
24-25-92-16 - Pallet knife	21-10-04-33 - Pallet rack (wheeled)
21-10-04-27 - Pallet rack crossbar	21-10-04-27 - Pallet rack frame
20-37-02-03 - Pull-back pallet (plastic, packing material)	20-37-05-01 - Push-pull pallet (cardboard, paperboard)
20-37-04-01 - Push-pull pallet (corrugated paperboard, packing material)	20-26-99-90 - Repair (pallet)

Tab.3: Codes concerning pallets, according to eCI@ss clasiffication



Comparisons

Example of technical properties for wood Europallet

20 Packing material

- 20-26 Pallet (packing material)
 - 20-26-01 Pallet (wood)
 - 20-26-01-01 U-Pallet (wood)
 - 20-26-01-02 Disposable pallet (wood)
 - 20-26-01-03 Euro pallet (wood)
 - 20-26-01-04 Half pallet
 - 20-26-01-05 Quarter pallet
 - 20-26-01-06 Pallet (plywood)
 - 20-26-01-07 Round pallet (plywood)
 - 20-26-01-08 Pallet (particleboard)
 - 20-26-01-09 Box pallet (wood)
 - 20-26-01-90 Pallet (wood, unclassified)
 - 20-26-01-91 Pallet (wood, parts)

Euro pallet (wood):

20 Packing material

- 20-26 Pallet (packing material)
 - 20-26-01 Pallet (wood)
 - 20-26-01-03 Euro pallet (wood)

Classification: 20-26-01-03 [AAT440004]
Preferred Name: Euro pallet (wood)
Definition:
Keywords:
Property-Set:

- [AAE670001](#) - additional link address
- [BAB392003](#) - Certificates and permits
- [AAD931001](#) - customs tariff number
- [BAA271004](#) - GTIN
- [BAA001003](#) - Manufacturer name
- [BAD847003](#) - Manufacturer product number
- [BAA310002](#) - Product name
- [BAA002002](#) - Product type description
- [AAF112001](#) - REACH designation obligatory
- [BAB542001](#) - Supplier name
- [BAA059004](#) - Supplier product number

Property	AAE670001 - additional link address
Abbr.	
Fieldformat	X..1024
Formulsig	
Unit	
Definition	site address where you can view information about the product or to communicate
Synonyms	
Values:	
Classification	
Connected Classes:	27223

Property	BAA001003 - Manufacturer name
Abbr.	
Fieldformat	X..64
Formulsig	
Unit	
Definition	legally valid designation of the natural or judicial person which is directly responsible for the design, production, packaging and labeling of a product in respect to its being brought into circulation
Synonyms	
Values:	
Classification	

Fig.8: Description of attributes for Euro pallet (wood) in eCI@ass

Comparisons

Attributes in eCI@ss for Euro pallet(Wood), Pallet(steel) and Pallet (packing material, other unclassified).

On the one hand side, there is a whole correspondence in General Administrative Properties for each commodities, but there is no other features for General and Special technical properties.

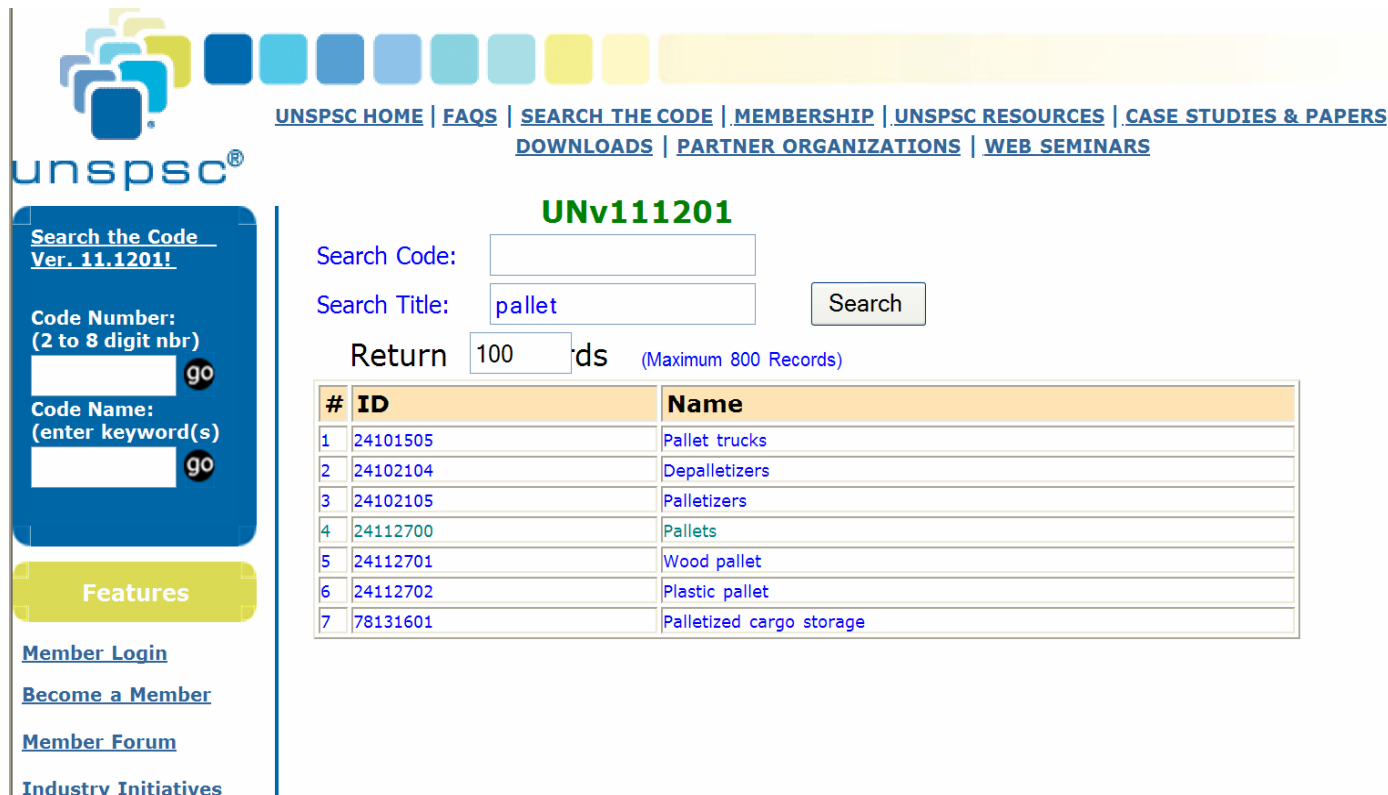
On the other hand side it could be a great advantage to have some properties such as supplier or manufacturer attributes, because in this way eCI@ss transfer the responsibility, for example of certificates of quality, to this companies.

eCI@ss Property category	eCI@ss Property set	Euro pallet (Wood)	Pallet (steel)	Pallet (packing material, other, unclassified)
		20-26-01-03	20-26-03-01	20-26-90-90
Basic properties	BAA001003 Manufacturer name	X	X	X
	BAA002002 Product type description	X	X	X
	BAA003004 Supplier product number	X	X	X
	BAA041003 Manufacturer product number	X	X	X
	BAA16003 Product name	X	X	X
	BAA112001 REACH designation obligatory	X	X	X
	BAA542001 Supplier name	X	X	X
	BAA601001 additional link address	X	X	X
	BAA392003 Certificates and permits	X	X	X
	BAA0931001 customs tariff number	X	X	X
General Administrative Properties	BAA211004 GTIN	X	X	X
General Tech- nical Properties				
Special Tech- nical Properties				

Tab.4: property set of eCI@ss categorized into aspects for the selected commodities.

Comparisons

Here is shown the codes corresponding to the UNSPSC classification system. There are few attributes for pallets and not give much information in comparison to eCl@ss or ISO/DIN systems.



The screenshot shows the UNSPSC website interface. At the top, there is a navigation bar with links: [UNSPSC HOME](#), [FAQS](#), [SEARCH THE CODE](#), [MEMBERSHIP](#), [UNSPSC RESOURCES](#), [CASE STUDIES & PAPERS](#), [DOWNLOADS](#), [PARTNER ORGANIZATIONS](#), and [WEB SEMINARS](#). Below the navigation bar, the UNSPSC logo is displayed. On the left side, there is a search box with the text "Search the Code Ver. 11.1201!". Below the search box, there are two input fields: "Code Number: (2 to 8 digit nbr)" and "Code Name: (enter keyword(s))", both with "go" buttons. Below the search box, there is a "Features" button. On the right side, the search results are displayed. The search code is "UNv111201". The search title is "pallet". The search results are displayed in a table with 7 rows. The table has columns: #, ID, and Name. The results are:

#	ID	Name
1	24101505	Pallet trucks
2	24102104	Depalletizers
3	24102105	Palletizers
4	24112700	Pallets
5	24112701	Wood pallet
6	24112702	Plastic pallet
7	78131601	Palletized cargo storage

Fig.9: Description of attributes for pallets in UNSPSC

Comparisons

List of some terms concerning to pallets in ISO/DIN 445

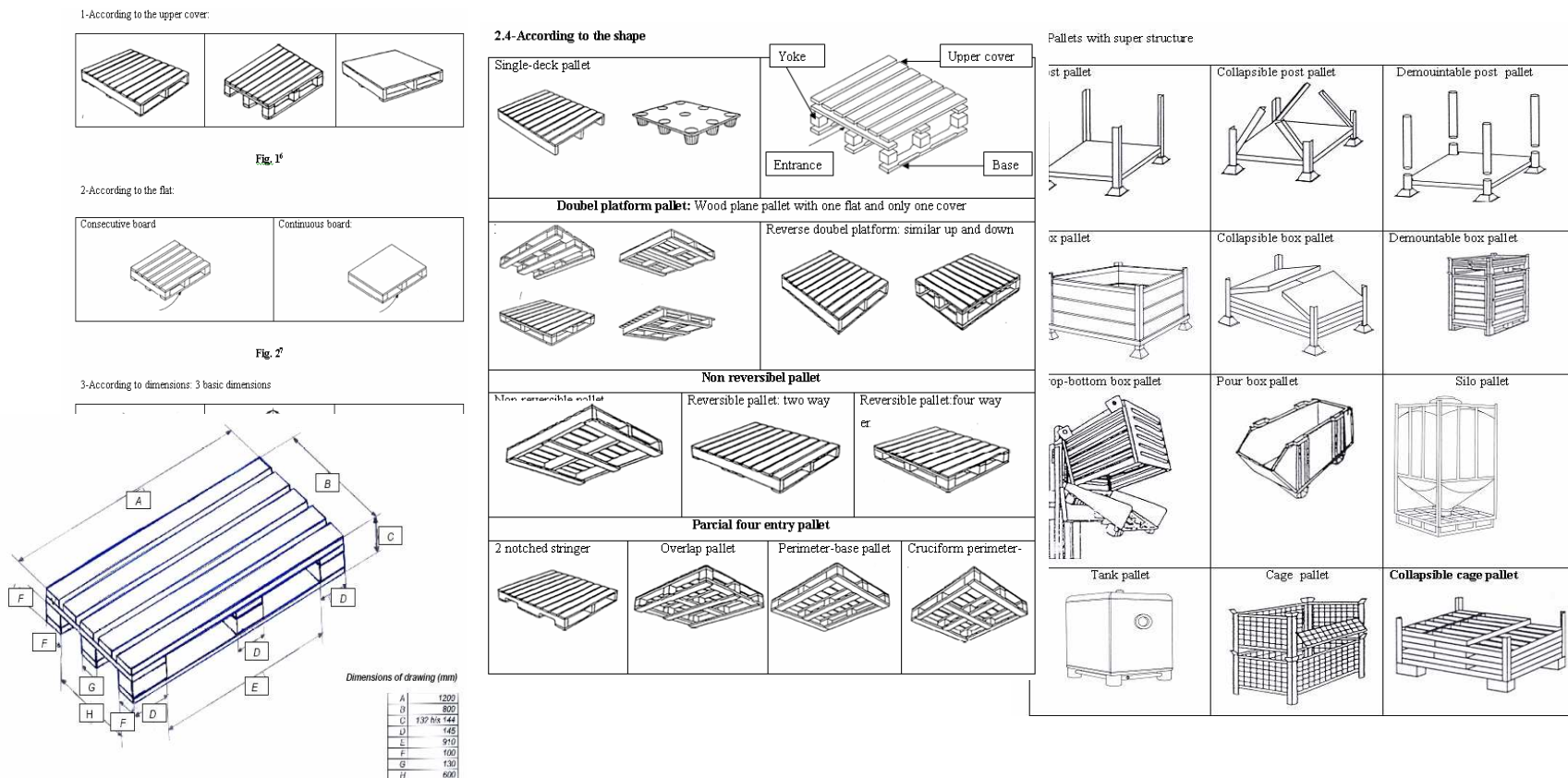


Fig.10: Design/dimensions of disposable wooden pallets

Comparisons

Tab.5 illustrates the comparison of attributes between the eCI@ss classification system and the ISO/DIN for some pallets. We can see that there is a lack of codes for eCI@ss compared to ISO/DIN 445. The ISO/DIN standard contains more attributes to describe a pallet and should be considered in eCI@ass.

eCl@ss				DIN/ISO 445		eCl@ss				ISO/DIN				eCl@ss				ISO/DIN										
				3.1	Single-deck pallet	3-Flat pallet	DIN 45:2009- (D)	4-Pallets with str. 640000% two.	DIN 45:2009- (D)				3.1	Collar	5-Pallet Superstructure bases	DIN 45:2009 ~05 (D)	20-26 Pallet (packing mat)	20-26-01-00	20-26-02-00	Disposable Pallet (wood)	9.1	Disposable pallet	9-Pallet usage	DIN EN ISO 445: 2009-03 (D)				
			Reversible	3.2.1	3.2					Double-deck pallet				3.2			Pallet converter				9.2	Reusable pallet						
			Non-reversible pallet	3.2.2																								
				3.3	Two-way																	9.3			Captive pallet			
				3.4	Four-way																					10- Dimensions of pallets		
			Notched stringer pallet	3.5.1	3.5	Partial four-way																						
			Overlap pallet	3.5.2																								
				3.6	Free-entry																							
			Cruciform perimeter-base pallet	3.7.1	3.7	Perimeter-base pallet																						
			Fixed post pallet	4.1.1	4.1	Post pallet																						
			Collapsible post pallet	4.1.2																								
			Demountable post pallet	4.1.3																								
20-26 Pallet (packing material)	20-26-01-00	20-26-01-00	Box pallet (wood)	Fixed box pallet	4.2.1	4.2	Box pallet																					
20-24 IBC Packing material	20-24-01-00	20-24-01-00	Tank/plastic, Box pallet	Collapsible box pallet	4.2.2																							
			Tank (coex, box pallet)	Demountable box pallet	4.2.3																							
				Drop-bottom box pallet	4.2.4																							
				Four box pallet, close-side box pallet	4.2.5																							
					4.2.6																							
	20-24 IBC	20-24-01-00	Tank(plastic, or pallet	Tank pallet	4.2.7	4.3	Cage pallet																					
	Back ing	20-24-01-00	Tank(coex, box pallet)																									
				Fixed cage pallet	4.3.1																							
				Collapsible cage pallet	4.3.2																							
				Demountable cage pallet	4.3.3																							

Tab.5: Comparison of property sets for pallets in eCI@ss and DIN/ISO 445

Comparisons

Comparison of some common attributes for pallets in different standards.

-According to terminology or vocabulary:

ASTM D-6251 Standard specifications for wood-cleated panelboard shipping boxes
ASME MH1, Part 1 Definitions of Terminology Covering Pallets and Related Structures
ISO 445:2008 Pallets for materials handling -- Vocabulary

-According to dimensions:

ASME MH1, Part 2 Sizes of Wood Pallet
ISO 6780:2003 Flat pallets for intercontinental materials handling – Principal dimensions and tolerances
ISO 3394 Dimensions of Rigid Rectangular Packages, Transport Packages
ISO 3676 Packaging -- Unit Load Sizes – Dimensions

-According to wood pallets:

ASME MH1, Part 3 Wood Pallets
ASME MH1, Part 9 Wood Pallets for US Government Use
ASME MH1, Part 2 Sizes of Wood Pallets
ISO/DIS 18334 Pallets for materials handling -- Quality of assembly of new, wooden, flat pallets
eCI@ss 20-26-01-00- Pallet (wood)

-According to quality:

ISO/TR 11444:1995 Quality of sawn wood used for the construction of pallets
ISO 15629:2002 Pallets for materials handling --Quality of fasteners for assembly of new and repair of used, flat, wooden pallets
ISO 18333:2002 Pallets for materials handling -- Quality of new wooden components for flat pallets
ISO 18334:2003 Pallets for materials handling -- Quality of assembly of new, wooden, flat pallets
DIN EN 12246 Quality classification of timber used in pallets and packaging

-According to repair:

eCI@ss 20-26-99-00- Pallet (repair)
ISO 18613:2003 Repair of flat wooden pallets

Comparisons

-According to materials:

ISO/DIS 18334 Pallets for materials handling -- Quality of assembly of new, wooden, flat pallets

eCI@ss: 2026-01:

20-26-01 Pallet (wood)

20-26-02 Pallet (plastic, packing material)

20-26-03 Pallet (metal, packing material)

20-26-04 Pallet (paper, packing material)

20-26-05 Pallet (corrugated paperboard, packing material)

ASME MH1, Part 3 Wood Pallets

-And an isolated norm could be: DIN EN 13698-1 Pallet production specification

CONCLUSION:

-We can see how for ISO there is two mention to repair pallets attribute:

ISO 15629:2002 Pallets for materials handling --Quality of fasteners for assembly of new and repair of used, flat, wooden pallets.

ISO 18613:2003 Repair of flat wooden pallets

meanwhile to eCI@ss there is only one code

eCI@ss 20-26-99-00- Pallet (repair)

-We can see how for ASME there is only one mention to wood sizes attribute:

ASME MH1, Part 2 Sizes of Wood Pallet

meanwhile to ISO can be mentioned at least two codes:

ISO 6780:2003 Flat pallets for intercontinental materials handling – Principal dimensions and tolerances

ISO 3394 Dimensions of Rigid Rectangular Packages, Transport Packages

-We can see how for ISO there is only one mention to wood material attribute, meanwhile for eCI@ss it is mentioned several materials.

Comparisons

Representation in different International Standards and companies: -NWPCA (National Wood Pallet and Container Association): in this standard is offered a program for design a pallet with lot of attributes.

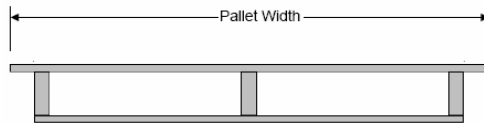
Pallet ID is your own name or identification for this pallet design (maximum 60 characters). It will be displayed on all printouts and drawings for this pallet.

Pallet Size is the overall pallet dimensions expressed as Pallet Length x Pallet Width.

Pallet Length is the length of the Stringers (Stringer-class pallets) or Top Stringerboards (Block-class pallets). For Panel-deck Block-class pallets without stringerboards, Pallet Length is typically the pallet dimension parallel to the Top Panel Deck strong axis.



Pallet Width is the length of the Top Deckboards. For Panel-deck pallets, Pallet Width is the Top Panel Deck dimension perpendicular to Pallet Length.



Pallet Class defines the basic pallet design class:

- **Stringer-class** pallets utilize rectangular stringers (or runners) - wood components that run the full length of the pallet. The top deck is fastened to the top edge of the stringers. For Double-face pallets, the bottom deck is fastened to the bottom edge of the stringers.
- **Block-class** pallets utilize rectangular blocks (or cylindrical posts), which separate the top deck from bottom deck (if Double-Face). Block-class pallets with lumber decks have top stringerboards, which run the full length of the pallet and are fastened to the blocks.

General dimension

The screenshot shows the NWPCA Pallet Design System (PDS) software interface. It includes a search bar, a sidebar with navigation links (Program Description, Licensing Information, Training, Download latest PDS Update, NWPCA's PDS Design Service, Contact Us), and a main area displaying a 3D model of a pallet. Below the model, it states 'The Pallet Design System®' and '3-D Design and Engineering Tool for Wood Pallets'. It also lists 'NWPCA's Pallet Design System® (PDS) is:' followed by a list of features: a product specification tool, an engineering design tool, an educational tool, and a professional marketing tool. A 'PDS Newsletter' section is also visible, listing recent issues.

The screenshot shows the 'Pallet Design System Version 4.1 Pallet Specification Sheet'. It includes a header with 'All dimensions in inches' and a 'Customer' section. The 'Pallet ID' is 'Stringer-Class Pallet Example'. The 'Classification' is '48.00 x 40.00, Stringer-Class, Double-Face Non-Reversible, Partial 4-Way, Multiple-Use, New Manufacture'. The 'Pallet Treatments' are 'ISPM-15 Compliance: Heat Treatment (HT)'. The sheet includes three views: Side View, End View, and Top View. The 'Components' section lists 'Top Deck' and 'Bottom Deck' details. The 'Fasteners' section lists 'Fastener ID', 'Fastener Type', 'Fastener Length', 'Thread Diameter', 'Wire Diameter', 'Head Diameter', 'Plates', 'Thread Angle', 'PWI', and 'PSI'. The 'Materials' section lists 'New Lumber' and 'Species Class'. The 'Spec Sheet Notes' section includes a note about the software's copyright and a note about the user's responsibility for the design.

Fig.11: Representation and possibilities of making your own pallet.

Comparisons

-DIN:One example of one kind of standard pallet is found in the Halder norm+technik.

It takes as a reference the German international standard DIN: Paletten DIN 55 201-A2. It's a simple representation, with not much details, unless material and dimensions.

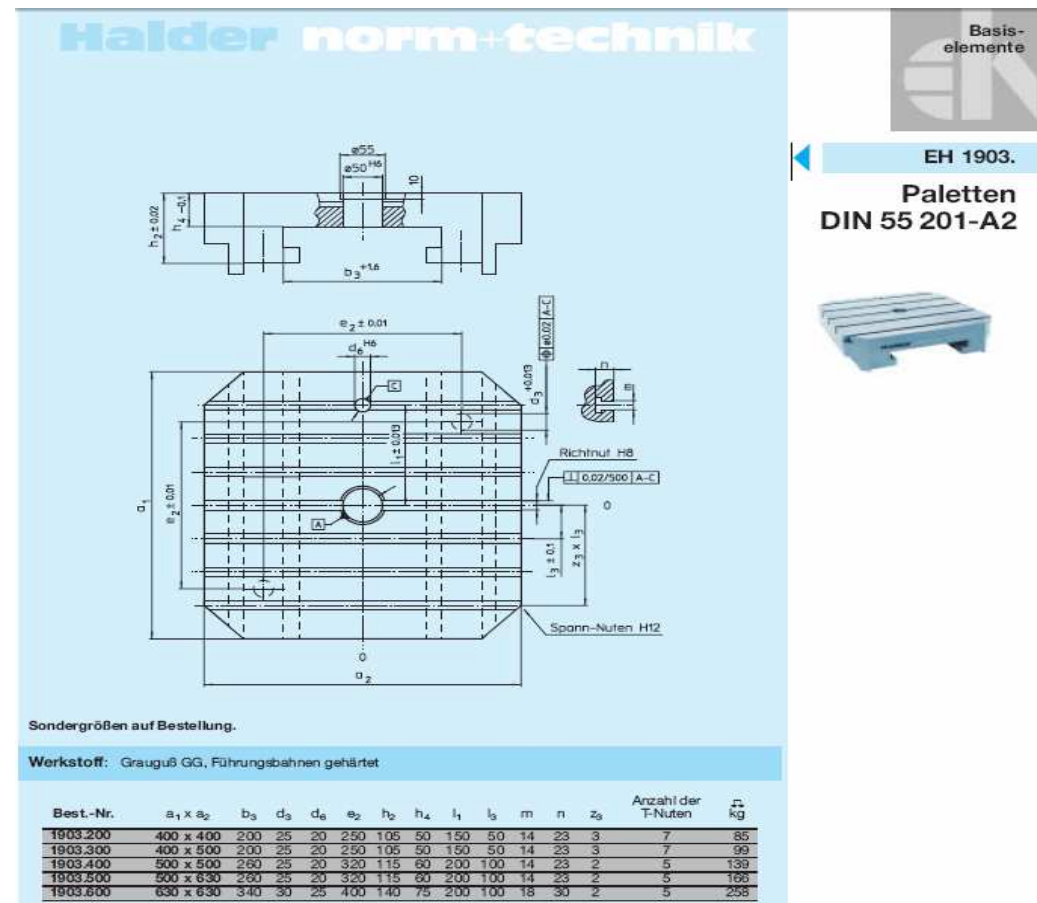


Fig.12:DIN 55 201-A2 according to Halder norm+technik

Comparisons

EPAL (European Pallet Association):

This company offers in its electronic catalog a wide range of wooden pallets, with specifications based on Euro-pallets. The Europallet is one of only six pallet types recognized by ISO.

Choose the best EPAL solution for your logistics, transport and storage

Now available in 3 new different sizes:



1. 1800 x 1200 mm pallet EUR
2. 1200 x 1000 mm pallet EUR 2
3. 1000 x 1200 mm pallet EUR 3
4. 800 x 600 mm pallet EUR 6

To ensure standards and safety: make sure that your pallets are marked with the EPAL quality mark.

EPAL
European Pallet Association e.V.

An den Spelchem 6 fon +49 (0) 251 284 3970
48157 Muenster fax +49 (0) 251 284 3972
Germany mail info@epal-pallets.org

www.epal.eu

EURO-Pallets
EUR
EUROPEAN PALLET ASSOCIATION



1. EUR-pallet - 1800 x 1200 mm
2. EUR 2-pallet - 1200 x 1000 mm
3. EUR 3-pallet - 1000 x 1200 mm
4. EUR 6-pallet - 800 x 600 mm

How can I identify an EPAL quality pallet:



Standardized marking: Only pallets wrapped in this way ensure the requisite stability.

Chamfered bases: to make handling considerably easier.

No hairy edges and no significant insect growth.

On the left block: the mark of the European Pallet Association, i.e. EPAL.

On the center block: the mark of the authorizing railway company, e.g. DB, a mark denoting the country, e.g. D, the manufacturer's code.

Right-hand marking: the mark of the European railway pallet pool, i.e. EPR.

Fig.13: Features of EPAL association on the web

Comparisons

Palet Express:

Is a company which offers a software application dedicated to wooden pallet design too. The methods applied to evaluate mechanical performance are in accordance with procedures such as those stipulated in ISO 8611.

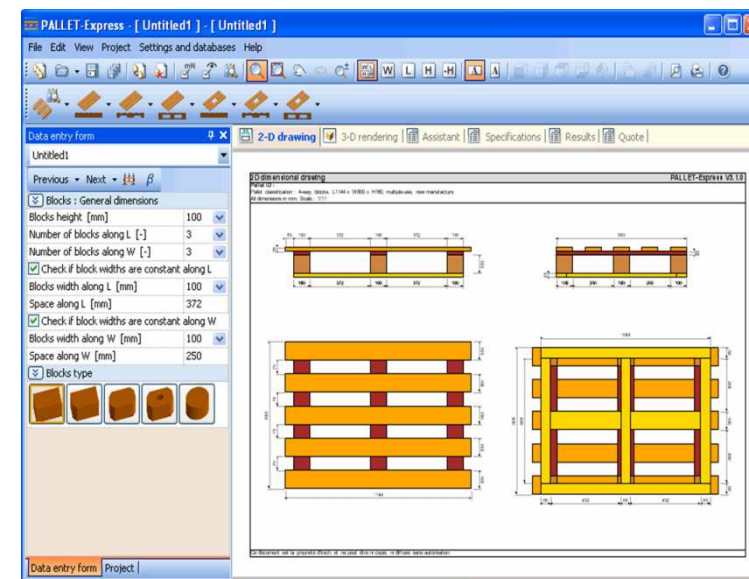
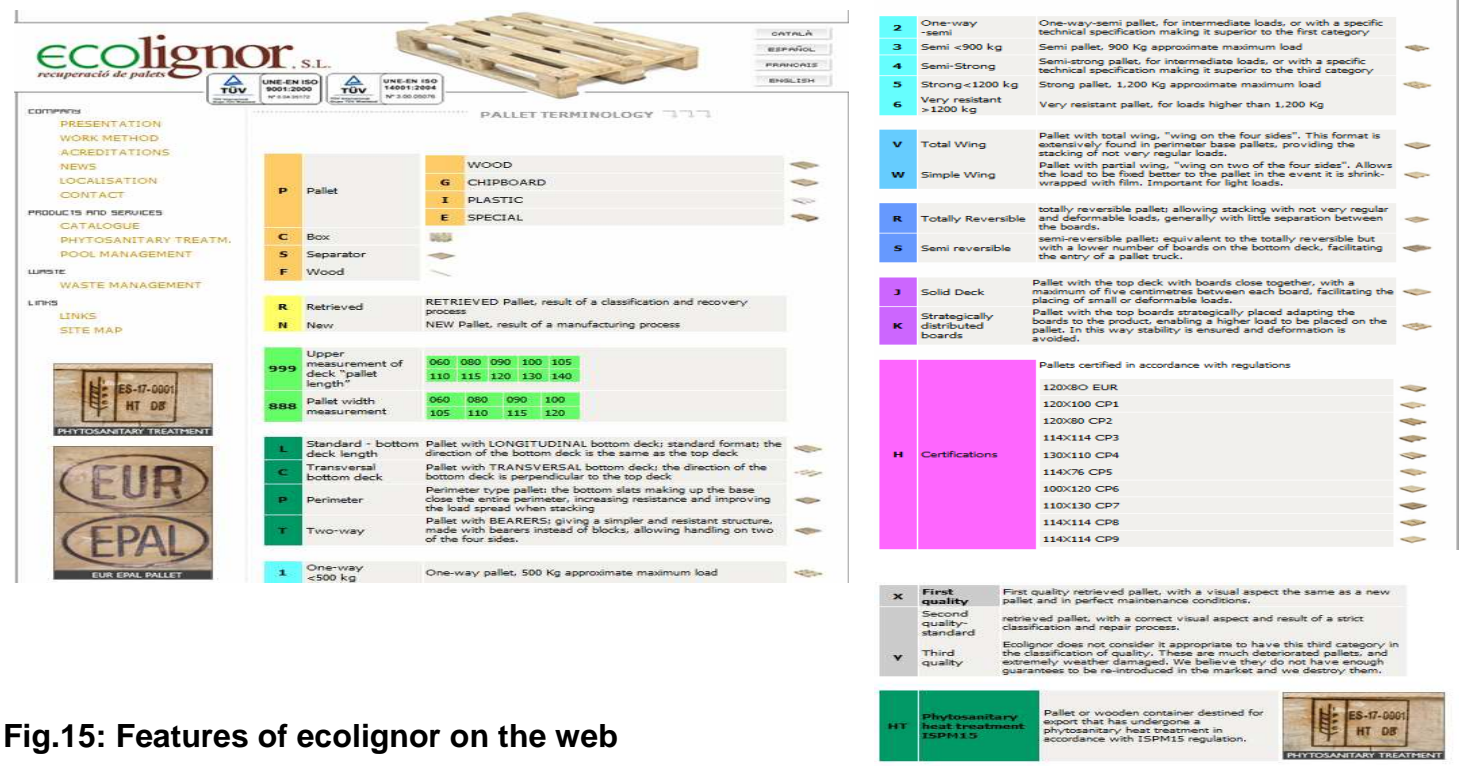


Fig.14: Features of Palet express on the web

Standards and catalogs

-Ecolignor, is an Spanish company which recover and sells pallets.
It codifieds pallets with its own terminology and adds treatments and certifications according to regulations EPAL.



The screenshot displays the Ecolignor website interface, which includes a navigation menu on the left with links for 'PRESENTATION', 'WORK METHOD', 'ACREDITATIONS', 'NEWS', 'LOCALISATION', 'CONTACT', 'PRODUCTS AND SERVICES', 'CATALOGUE', 'PHYTOSANITARY TREATMENT', 'POOL MANAGEMENT', 'WASTE MANAGEMENT', 'LINKS', and 'SITE MAP'. The main content area is titled 'PALLET TERMINOLOGY' and features a table of pallet types and their specifications. To the right of the table, there are icons representing different pallet types. Below the table, there are sections for 'Certifications' and 'Phytosanitary Treatment'.

Letter	Description	Material
P	Pallet	WOOD
G	CHIPBOARD	
I	PLASTIC	
E	SPECIAL	
C	Box	
S	Separator	
F	Wood	
R	Retrieved	RETRIEVED Pallet, result of a classification and recovery process
N	New	NEW Pallet, result of a manufacturing process
999	Upper measurement of deck "pallet length"	060 080 090 100 105 110 115 120 130 140
888	Pallet width measurement	060 080 090 100 105 110 115 120
L	Standard - bottom deck length	Pallet with LONGITUDINAL bottom deck; standard format; the direction of the bottom deck is the same as the top deck
C	Transversal bottom deck	Pallet with TRANSVERSAL bottom deck; the direction of the bottom deck is perpendicular to the top deck
P	Perimeter	Perimeter type pallet; the bottom slats making up the base close the entire perimeter, increasing resistance and improving the load spread when stacking
T	Two-way	Pallet with BEARERS; giving a simpler and resistant structure, made with bearers instead of blocks, allowing handling on two of the four sides
1	One-way <500 kg	One-way pallet, 500 Kg approximate maximum load

Letter	Description	Material
2	One-way -semi	One-way-semi pallet, for intermediate loads, or with a specific technical specification making it superior to the first category
3	Semi <900 kg	Semi pallet, 900 Kg approximate maximum load
4	Semi-Strong	Semi-strong pallet, for intermediate loads, or with a specific technical specification making it superior to the third category
5	Strong <1200 kg	Strong pallet, 1,200 Kg approximate maximum load
6	Very resistant >1200 kg	Very resistant pallet, for loads higher than 1,200 Kg
V	Total Wing	Pallet with total wing, "wing on the four sides". This format is extensively found in perimeter base pallets, providing the stacking of not very regular loads
W	Simple Wing	Pallet with partial wing, "wing on two of the four sides". Allows the load to be fixed better to the pallet in the event it is shrink-wrapped with film. Important for light loads
R	Totally Reversible	totally reversible pallet; allowing stacking with not very regular and deformable loads; generally with little separation between the boards
S	Semi reversible	semi-reversible pallet; equivalent to the totally reversible but with a lower number of boards on the bottom deck, facilitating the entry of a pallet truck
J	Solid Deck	Pallet with the top deck with boards close together, with a maximum of five centimetres between each board, facilitating the placing of small or deformable loads
K	Strategically distributed boards	Pallet with the top boards strategically placed adapting the boards to the product, enabling a higher load to be placed on the pallet. In this way stability is ensured and deformation is avoided
H	Certifications	Pallets certified in accordance with regulations

Letter	Description	Material
X	First quality	First quality, retrieved pallet, with a visual aspect the same as a new pallet and in perfect maintenance conditions
	Second quality - standard	retrieved pallet, with a correct visual aspect and result of a strict classification and repair process
V	Third quality	Ecolignor does not consider it appropriate to have this third category in the classification of quality. These are much deteriorated pallets; and extremely weather damaged. We believe they do not have enough guarantees to be re-introduced in the market and we destroy them.
HT	Phytosanitary heat treatment ISPM15	Pallet or wooden container destined for export that has undergone a phytosanitary heat treatment in accordance with ISPM15 regulation

Fig.15: Features of ecolignor on the web

IV. Proposal for an extended and harmonised description.

Javier Pérez Moreno

Dortmund., 10 December, 2009

Proposal for an extended and harmonised description

At first I miss some properties in some catalogs and standards. For example, there is no European or International standard that covers empty pallet stacking⁸.

Next, I find very interesting to develop an unified Language representation with symbols and designations. I don't find any specification in this issue.

The proposal for an extended armonized description is focused in the recognition of the commoditie for a short and easy code.

It should begin with a number and the concept of the commoditie. Afterwards, each commoditie is categorised in several steps.

Each step is codified and correspond to an attribute of the commoditie, in order of importance in 3 lines. Letters give more information than numbers as in several catalogs is shown.

So, the new standard is called WST (world standard) ,pallets begin for example with number 54 (or other) , followed for a PLL.

For example:

1-Pallet for chemical transporting ,made of plastic, built as a superstructure and dimensions 1200x800 has the next property sets:

WST-54PLL	CH	S	PL	1200x800 / 20	Le1200/Ld1400	H2000
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8 Palletlink 25g/JH/JN/06/08/09 wooden pallets

Proposal for an extended and harmonized description

Step	Attribute of the pallet			Code	Property category
1	Application	1-1 Type of pallet	1-1-1 Flat pallet	F	Main technical properties (1 st line)
			1-1-2 Super structure	S	
		1-2 Material.			
2	Dimensions and weight of the pallet.				
3	Maximum working load		3-1Estatic	Le	
			3-2Dinamic	Ld	
4	Máx vertical dimension accumulated			H	
5	Number of entryes				Secondary technical properties (2° line)
6	Secondary dimensions				
7	Fasteners				
8	Certificats and permits				
9	Usage				
10	Date of dote				
11	Demountable				
12	Customizable				
13	Colour				
14	Testing procedure				
15	Repair				
16	Heat teatment				
17	Manufacturer name.				Comercial properties (3° line)
18	Supplier name.				
19	Tariff.				
20	Drawing				



Thank you for your attention!